IEEE AWPL Special Cluster 2024 on
"Recent Advances in Filtering Antennas and Arrays"

With the advancement of the modern wireless systems from the current 5G to future 6G communications, the electromagnetic environment is getting increasingly complicated. Filtering antennas, also known as filtennas, are becoming increasingly important in the wireless communication systems. Owing to the advantages of high integration of compact and multi-band antenna elements and the excellent suppression over the undesired out-of-band interferences, filtering antennas have been widely applied in 2G/3G/4G/5G base stations, satellites, navigations, radars, etc.

This special cluster aims to provide an international forum for researchers to disseminate their latest findings on the techniques, applications and understanding in realizing various filtering antennas. The topics are expected to cover new theories, new materials, and new algorithms for the design of novel filtering antennas and arrays. In this special cluster, the following topics related (but not limited) to filtering antennas design and optimization are especially welcomed:

- New materials such as meta-materials, liquids, low-temperature superconducting materials, graphene, etc. for designing filtering antennas.
- New manufacturing technologies such as 3D printing and laser cutting, etc. for fabricating filtering antennas.
- New artificial intelligent algorithms such as machine learning and deep learning used to obtain high precision, high selectivity filtering antennas.
- New design theories and applications of concepts such as new coupling topologies and new methods of using characteristic mode analysis, even-mode, odd-mode, differential-mode, common-mode, etc. to illustrate the inner working principles of filtering antennas.
- Improvement of filtering performances for linear polarization, dual-polarization, circular polarization, and multi-polarization.
- Improvement of filtering performances for high-gain, large-aperture array antennas, such as metasurface array antennas, reflectarray antennas, transmitarray antennas, reconfigurable array antennas, beam-scanning array antennas, etc.

The Guest Editors of this Special Cluster are:

- Dr. Lehu Wen, Brunel University London, UK, LehuWen@ieee.org
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Prospective authors are encouraged to contact the Guest Editors for any questions or to determine the suitability of their contribution for this special cluster. Papers should be prepared following the same submission instructions as for regular IEEE AWPL manuscripts (four-pages technical content maximum and one reference page, double-column, IEEE format), available via the Information for Authors website (http://awpl.ee.cuhk.edu.hk/resources.html). The authors should indicate in the cover letter to the Editor-in-Chief that the manuscript is being submitted in response to the Call for Papers for the focused cluster. Prospective authors should refer to the timeline below for key dates.

Key dates:

- Submission deadline: **March 31, 2024**
- First decision: May 15, 2024
- Revised manuscripts deadline: June 15, 2024
- Final decision: July 30, 2024
- Final manuscripts due by: September 1, 2024
- Online publication: Shortly after final manuscript submission
- Cluster publication: November (or December) 2024 issue of AWPL